

In the Claims

Please add claims 46-50. The new claims are provided below in clean form. Per 37 C.F.R. §1.121, the claims are also shown in Appendix A with notations to indicate changes made (for convenience, all pending claims, including those added hereby, are provided in Appendix A).

46. (NEW) A device for use in thermal processing, the device comprising
a plurality of process chambers, each of the process chambers defining a volume for containing a sample mixture;
a valve located between selected pairs of the plurality of process chambers; and
wherein the sample mixture comprises an enzyme, a dye, and an effective amount of a surfactant from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof, wherein the dye inactivates the enzyme in the absence of the surfactant, and the surfactant inhibits such interaction.

47. (NEW) The device of claim 46 wherein the valve comprises an impermeable disc distinct from a substrate.

48. (NEW) A method of conducting a thermal cycling process comprising:
providing a device comprising a plurality of process chambers, each of the process chambers defining a volume for containing a sample mixture;
providing a sample mixture in at least some of the process chambers;
delivering electromagnetic energy to the process chambers to raise the temperature of the sample mixture in the process chambers;
rotating the device about an axis of rotation while delivering the electromagnetic energy, wherein the temperature of the sample mixture in the process chambers is controlled as the substrate rotates; and wherein the sample mixture comprises an enzyme, a dye, and an effective amount of a surfactant from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof, wherein the dye inactivates the enzyme in the absence of the surfactant, and the surfactant inhibits such interaction.

49. (NEW) A method of processing sample material comprising:

- providing a device comprising a plurality of process chamber arrays, each of the process chamber arrays comprising a loading chamber, a first process chamber, and a second process chamber;
- providing a sample mixture in the loading chamber of at least one of the process chamber arrays;
- moving the sample mixture from the loading chamber into the first process chamber by rotating the device;
- controlling the temperature of the sample mixture in the first process chamber by rotating the device about an axis of rotation while delivering electromagnetic energy to the first process chamber;
- moving the sample mixture from the first process chamber to the second process chamber by rotating the device; controlling the temperature of the sample mixture in the second process chamber by rotating the device about an axis of rotation while delivering electromagnetic energy to the second process chamber; and
- wherein the sample mixture comprises an enzyme, a dye, and an effective amount of a surfactant from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof, wherein the dye inactivates the enzyme in the absence of the surfactant, and the surfactant inhibits such interaction.

50. (NEW) The method of claim 49, wherein the process chamber arrays comprise a valve located between the first process chamber and the second process chamber, and wherein the method further comprises opening the valve to move the sample mixture from the first process chamber to the second process chamber.